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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,465	07/07/2003	Tehsin Lee	3304.2.66	7607

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EXAMINER

CULBERT, ROBERTS P

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,465

Applicant(s)

LEE ET AL.

Examiner

Roberts Culbert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Arguments

Applicant's arguments filed 6/30/05 have been fully considered but they are not persuasive.

Applicant has argued that the prior art fails to teach or render obvious performing the claimed stripping process immediately after etching the aluminum or aluminum alloy film. In support of this argument, applicant points out that the methods of Chu et al. and Tanabe et al. teach the additional step of dry ashing prior to stripping the resist with solution.

However, the argument is not persuasive to overcome the rejection because the additional ashing step is not part of the method relied upon by the examiner, (Paragraphs 2 and 3) of Tanabe et al., but is only provided in the modified process recited in the detailed description (Paragraphs 22-24) of Tanabe et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to

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the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10, 12 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2001/0038976 to Tanabe et al.

Tanabe et al. teaches a conventional method of post-treating a dry etched aluminum or aluminum alloy film (Paragraph 2) comprising an unetched portion covered by a photoresist and an etched portion exposed from the photoresist.

Tanabe et al. teaches (Paragraphs 3) that it is conventional in the art to use a stripping agent such as monoethanolamine (MEA) to remove the photoresist from the unetched portion, and to subsequently use a washing agent such as isopropyl alcohol or water to remove the stripping agent. Tanabe further teaches that the prior art stripping process is performed substantially immediately after etching the metal layer since no intermediate steps are performed in the process of the prior art as recited in Paragraphs 2 and 3.

Tanabe does not expressly teach using a dry etchant to etch the aluminum or aluminum alloy film or that the stripping agent reacts with an etching by-product to form a passivation layer and that the washing agent removes the passivation layer.

However, Tanabe et al. teaches that a suitable etchant for aluminum and aluminum alloy films is one of chlorine gas and boron trichloride (Paragraph 23), which inherently forms an etching by-product of aluminum chloride (AlCl_x) on the etched portion of the aluminum or aluminum alloy film.

In view of the teachings of Tanabe et al, it would have been obvious to one of ordinary skill in the art at the time of invention to use the conventional etch gasses to etch the aluminum alloy films of the previously cited prior art method (as recited in Paragraphs 2 and 3 of Tanabe et al.) One of ordinary skill in the art would have been motivated at the time the invention was made to use the conventional etch gasses in order to provide a suitable and effective means of etching

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an aluminum alloy film. Since the passivation layer is formed by the reaction between the reaction products and the stripping agent, and the reaction products (AlCl_x) and the stripping agent (MEA) are the same in the prior art method and the claimed invention, the passivation layer would be formed by the prior art method as claimed. Further since Tanabe et al. teaches the same washing agents that are recited in the claimed invention, the passivation layer would be removed by the washing agents as claimed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberts Culbert whose telephone number is (571) 272-1433. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. Culbert




PARVIZ HASSANZADEH
SUPERVISORY PATENT EXAMINER